POWERBANK185-AA
195.3WH 3.7V/52800MAH

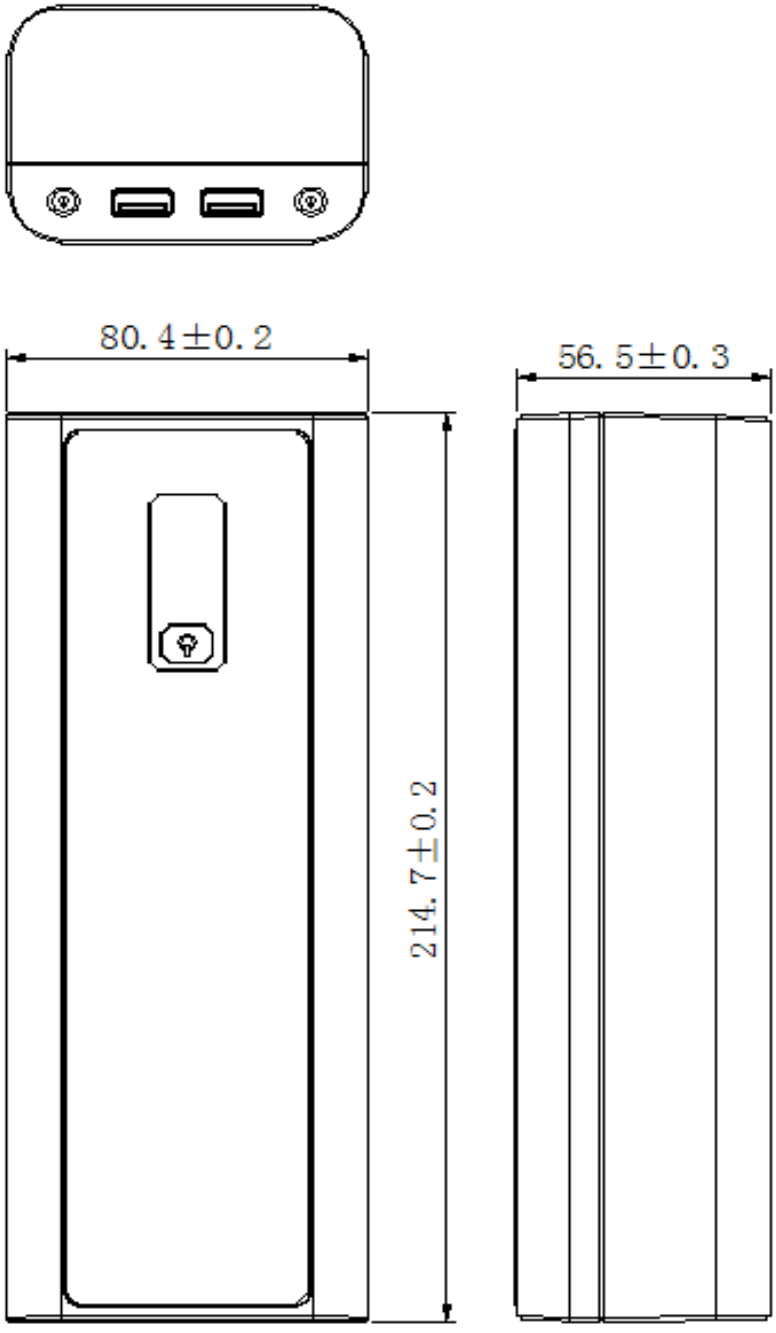
www.addoncomputer.com

Product Parameters

Parameter	POWERBANK185
Cell Type	Lithium Ion
Cell Model	18650 2200mAh
Output Parameters	1: DC, a) 9V/3.8A, b) 12V3.8A, c) 16V/3.8A, d) 19V/3.8A, e) 20V/3.8A 2: USB 3.0A (Max) 3: USB, a) USB1: 5V ± 8%/2.1A, b) USB2: 5V±5%/1.0A 4: USB1 iPad 2.1A ID, USB2 iPhone 1A ID 1: One DC output port, there are five voltage output to choose, as follows: a) 9V/3.8A, b) 12V/3.8A, c) 16V/3.8A, d) 19V/3.8A, e) 20V/3.8A 2: Synchronous output for both USB ports, voltage: 5V± 8%, the output current is 2.1A 3: When only one USB terminal has the output: a) The USB1 output voltage: 5V±8%, the output current is 2.1A b) The USB2 output voltage for 5V±5%, the output current for 1.0A 4: Note: USB1 Output end rechargeable apple iPad series product (2.1A ID recognition), USB2 Output end rechargeable iPhone series products (1A ID recognition)
Charging Parameters	DC: 15V-24V, 1.4A±0.2A 12.6V, <1.4A DC Port Input Charging Voltage: DC15V-24V When input charging (18V input), charging current: 1.4A±0.2A turn into constant voltage when the cell voltage is 12.6V, charging current less than 1.4A (the cell constant current is 2A±0.1A)
Typical Capacity	52800mAh at 0.2°C
Minimum Capacity	50160mAh at 0.2°C
Temperature Range	Charging: 0~45°C Discharge: 20~65°C Storage: -20~25°C within 1 year, -20~45°C within 3 years

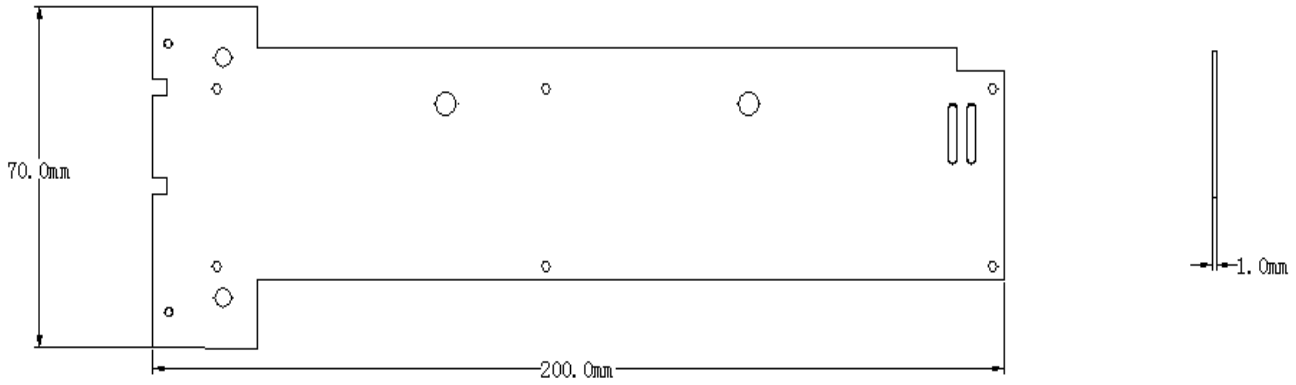
Weight	1365.7±50g
Humidity range	Operating humidity range: Less than 75% RH Storage humidity range: Less than 75% RH

Mechanical Drawing (Unit: mm)



PCBA Specification (Unit: mm, Tolerance: ±0.1mm)

PCB1: MP-50000(H185)-V1.2



PCB1: MP-20000A-LCD V1.3

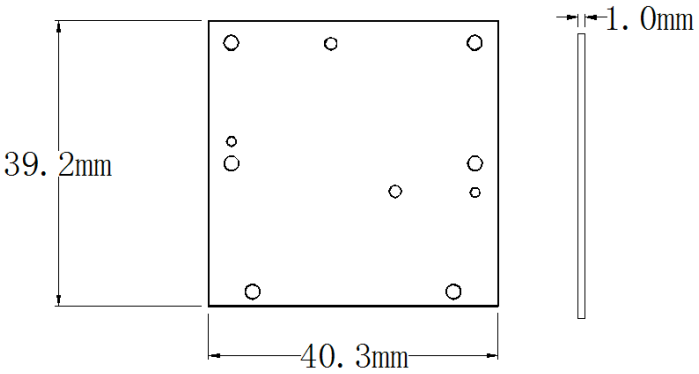
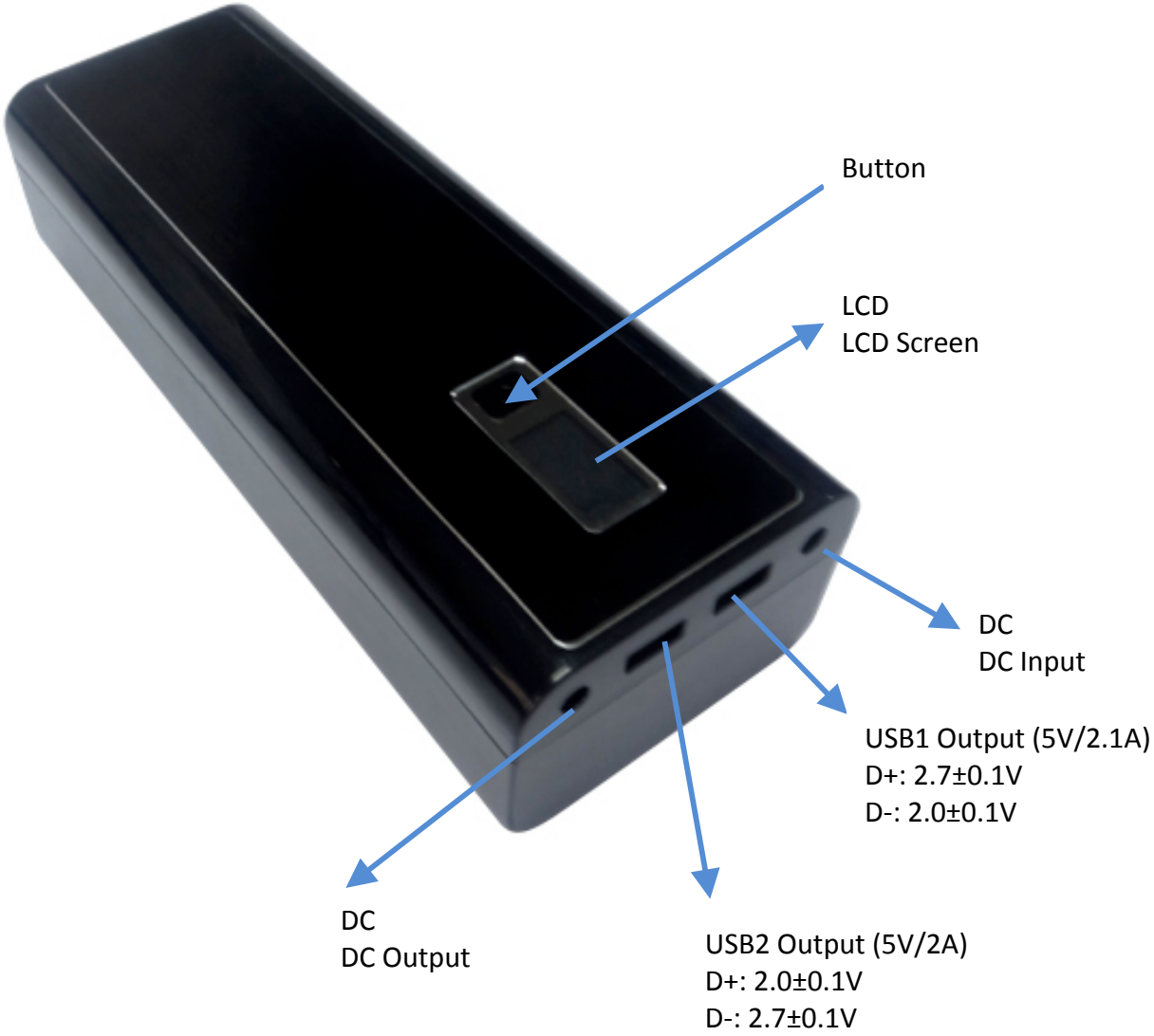


Photo of the Product

Top View

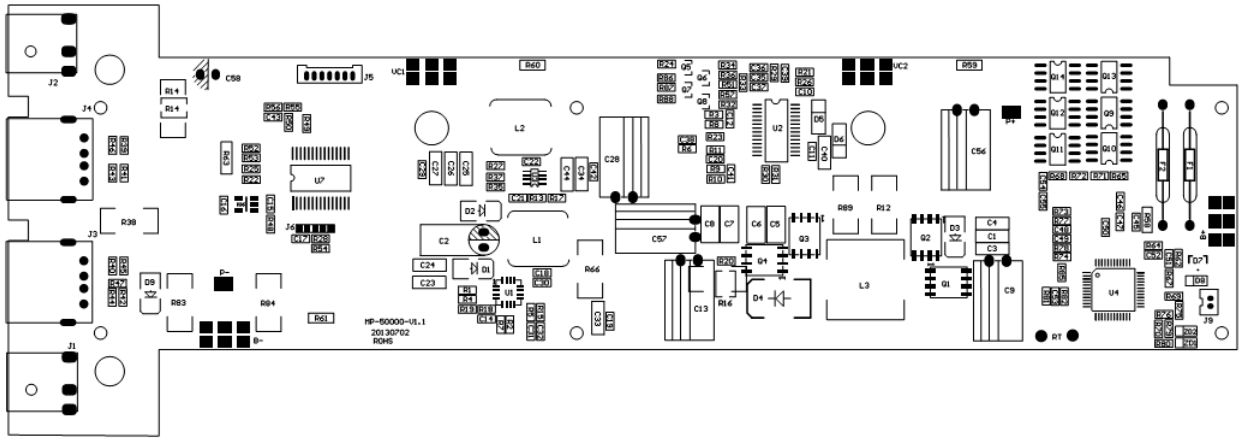
Bottom Side View

Pin Assignment

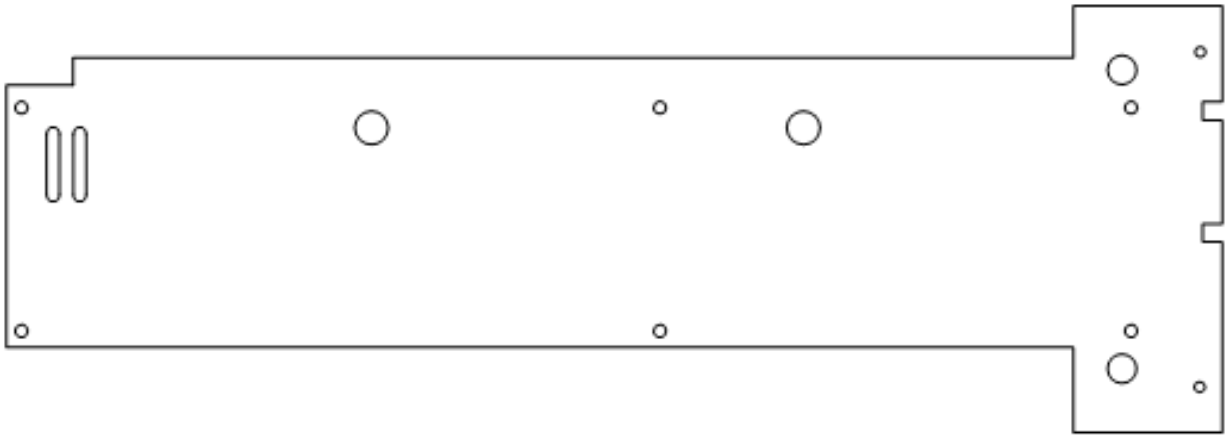


PCB1: MP-50000(H185) V1.2

Top

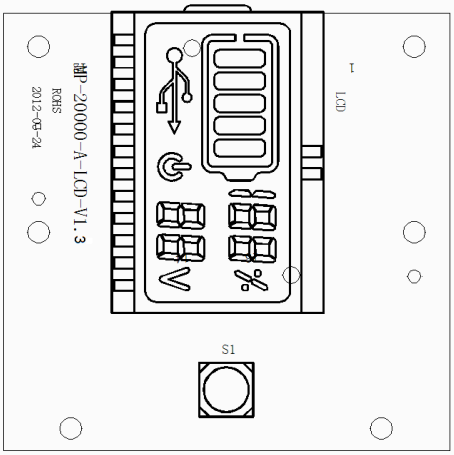


Bottom



PCB2: MP-20000A-LCD V1.3

Top



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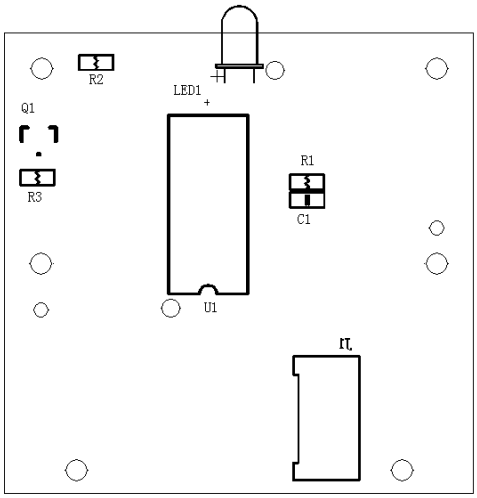
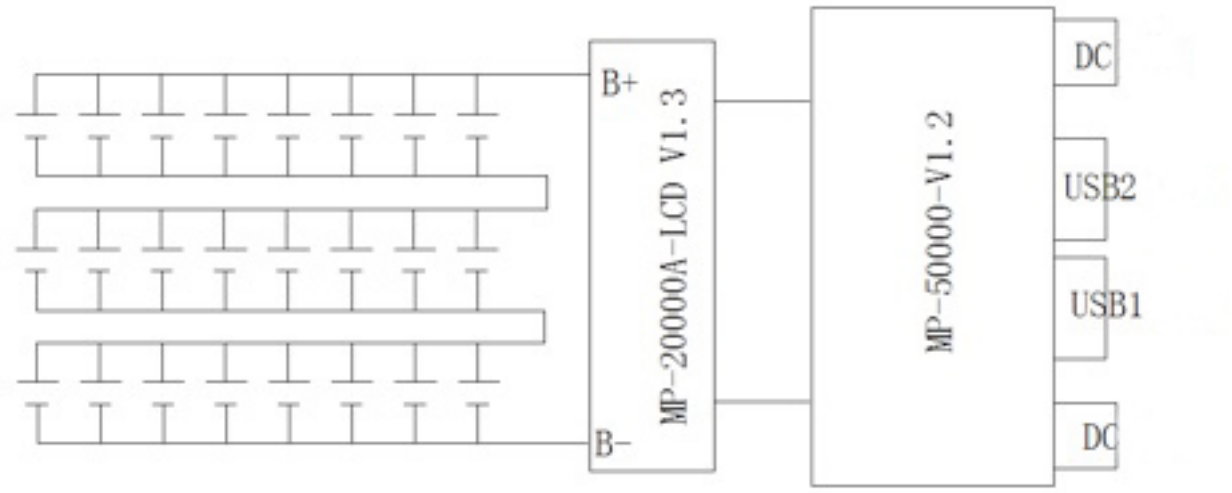


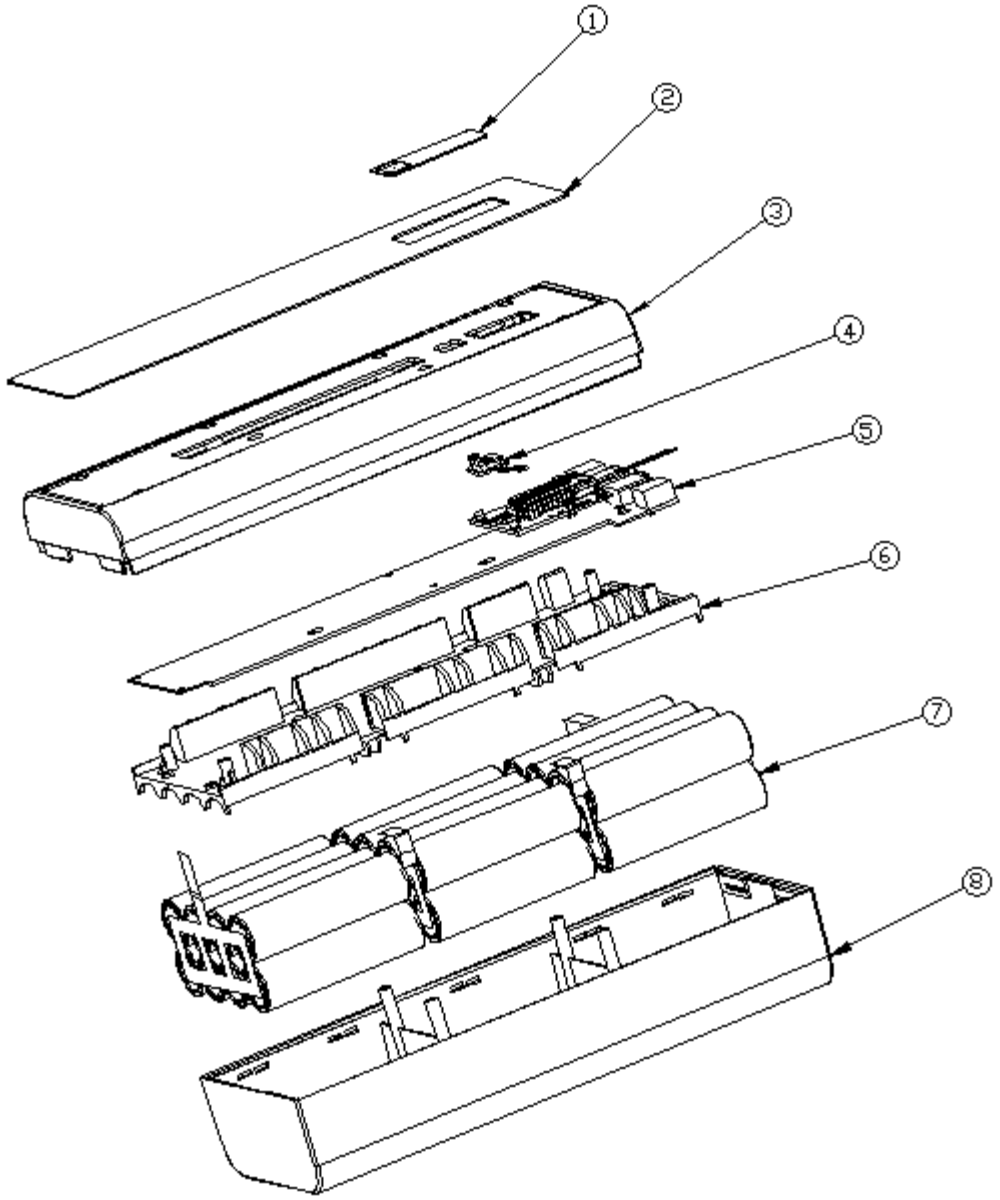
Circuit Board



Board Connection

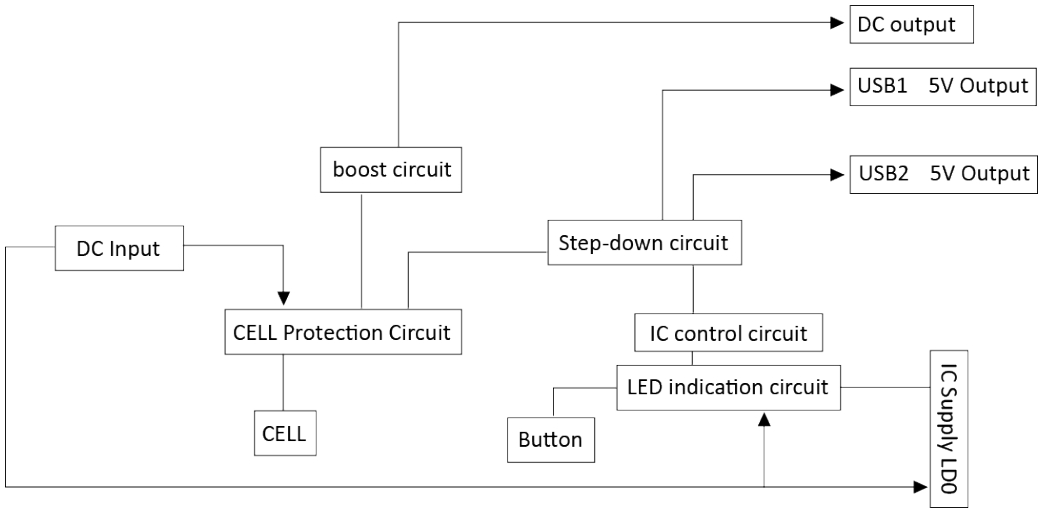
Pin	Description
MP-20000A-LCD V1.3	Connect the positive and negative of 24 Cells
MP-20000A-LCD V1.3	Connect to the MP-50000(H185) V1.2
MP-50000(H185) V1.2	Connect to the DC input
MP-50000(H185) V1.2	Connect to the DC output
MP-50000(H185) V1.2	Connect to the USB1 output and USB2 output

Assembly Diagram



No.	Name	Specification	Qty.
1	Lens	PMMA transparent framework silk-screen black with glue	1
2	Decoration Sheet	Aluminum back with glue	1
3	Top Cover	ABS+PC (RW-013) high light spray oil with UV	1
4	Button	ABS+PC (RW-013) high light	1
5	PCB	MP-50000 V1.2 MP-20000A-LCD V1.3	2
6	Holder	ABS+PC (RW-013) high light	1
7	Cell	18650 2200MAH A HYB	24
8	Bottom Cover	ABS+PC (RW-013) high light spray oil with UV	1

Electrical Block Diagram



PCB1: MP-50000(H185) V1.2

No.	Name	Specification	Symbol	Qty.
1	PCB	MP-50000(H185)		1
2	IC	MP-26123 QFN16	U1	1
3	IC	LTC3789 SSOP-28	U2	1
4	IC	MP1495 SOT-23-8	U3	1
5	IC	IC BM3318A TQFP48	U4	1
6	IC	IC S-812C30AMC-C2KT2S(G) SOT-23-5	U6	1
7	IC	UPD78F9234MC SSOP-30	U7	1
8	MOS	ME7170 DFN5*6	Q1 Q2 Q3 Q4	4
9	MOS	ME4435 SOP-8	Q9 Q10 Q11 Q12 Q13 Q14	6

PCB2: MP-20000A-LCD V1.3

No.	Name	Specification	Symbol	Qty.
1	PCB	MP-20000A-LCD V1.3		1
2	IC	HT1621B TSSOP-48	U1	1

Using Description and Test Standard

No.	Test item												Test standard	Remark
1	Charging voltage												DC：15V--24V	
2	Charging current	Charging at constant current 18V input											1.4A±0.2A	Constant current of cell：2A±0.1A
		Turn into constant voltage when the cell voltage is12.6V											＜1.4A	
3	Fully charged indicator	LED screen off												
4	Charging indicator	There is power insert symbol---the battery symbol increasing horse race												
5	Power indicator	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%		At 0% the power indicator will flash. There is no output when the power indicator is flashing.
	Power indicator light	0 bar	0 bar	1 bar	1 bar	2 bars	2bars	3 bars	3 bars	4 bars	4 bars	5 bars		
6	Insert USB wire, USB1 output	No-load voltage		5V±5%				D+voltage:2.7V±0.1V						Total output current of USB：3.0A Disconnect the USB cable to cease output.
								D-voltage:2.0V±0.1V						
		With load voltage		5V±8%				CC:2100mA						
	Insert USB wire, USB2 output	No-load voltage		5V±5%				D+voltage:2.0V±0.1V						
								D-voltage:2.7V±0.1V						
		With load voltage		5V±5%				CC:1000mA						
7	Insert DC output wire	9V gear display 9V		no-load				9.0V+0.5/-0.2						Under load, the wire loss should not exceed 0.3v.
				CC:3.8A				9.0V±0.5V						
				CV:5V				4.2A±0.25						

		12Vgear display 12V	no-load	12.5V+0.5/-0.2	
			CC:3.8A	12.0V±0.5V	
			CV:9V	4.2A±0.25	
		16Vgear display 16V	No-load	16.5V±0.5V	
			CC:3.8A	16.0V±0.5V	
			CV:12V	4.2A±0.25	
		19Vgear display19V	No-load	19.5V±0.5V	
			CC:3.8A	19.0V±0.6V	
			CV:16V	4.2A±0.25	
		20Vgear display 20V	No-load	20.5V±0.5V	
			CC:3.8A	20.0V±0.6V	
			CV:18V	4.2A±0.25	
8	Over current protection	USB port over current value	3.3A ±0.2	USB symbol flicker	
9	Short circuit test	DC: 9V\12V\16V\ 19V\20V		0V 4.2A±0.5	
		USB:5V		With short circuit protection	
10	Short circuit protection	Output ceases and is indicated by the blinking LED Display. Charge the unit to clear blinking LED display.			
11	PCB Appearance inspection	Component assembly and mount should follow correct instruction and put into the right place, no defectives like misplace, mis-component and ex-component etc. Besides, no drawbacks, including bridging, false soldering, rosin soldering, icicles, stacking, not saturated and stains etc, during visual inspection.			
12	Real machine test	① Insert the iPad to USB1 port by connection wire, iPad should have charging display. ② Insert the iPhoneUSB2 port by connection wire, iPhone should have charging display.			
13	Appearance inspection	Refer to《General appearance inspection criteria for power supply》			
Leakage current:Less than 500uA Remark: input use tuning fork 5.5*2.1 DC plug， and output use tuning fork 5.5*2.5DCplug。 Press short time will display power and output voltage 3 seconds; Press long 3 seconds, blinking display “V”, turn into switch voltage –mode, switch one gear voltage each time press.					

The Charging Function Information of Car Battery:

Switch the portable power supply voltage to 16V, then connect red clip to positive terminal of the 12V storage battery and connect the black clip to the 12V negative, now connect the DC plug to output port, please charge for 5 minutes.

MP-50000(H185) Burn in Test Standard

1. Discharging:
   - USB port load with 3.0A at the same time, turn on and discharging till light off.
   - Adjust the DC port voltage to 19V3.8A, and then turn on discharging till light off,
2. Charging: Use 19V/2A adaptor to charge the battery till all LCD lights off (that is the delivery electric quantity, which could also be customized according to customer's requirements. under the charge for 75%)
3. After aging test according to the standard test performance (Notice: If the discharge and charge can meet with above two points, and all performances are in operation, it means OK)

Contact Information

AddOn Computer, Inc. is a leading supplier of Memory Upgrade, Network Transceivers and Network connectivity products to Channel Partners, Resellers and OEMs, with more than seventeen years of direct industry experience. AddOn Computer has been the exclusive supplier to Ingram Micro's "Memory Upgrades" program for the past nine years.

AddOn Computer maximizes profitable opportunities for our partners. Our ability to source product worldwide, ensures that our pricing will always be competitive. Offering turnkey solutions, AddOn Computer has forged a reputation as a solutions provider, delivering high quality, cost effective product in a timely and reliable manner.

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